

## Intrathoracic pressure.

- fixed for arm & sh. movements.
- deep inspiration, fixed closed epiglottis, fixed expiratory muscles & abd.

## Heart + pressure.

- veins don't empty into heart.
- venous circ. held back.
- arteries poorly supplied.
- coronary artery empty.

## After pressure.

- lungs release  $\text{CO}_2$ .
- blood rushes into heart - dilation & it expands.

## Asympt.

- 1) Effort - empties coronary artery, deficient  $\text{O}_2$  supply.
- 2) After effort - dilation (expansion) of right heart.

## Heart failure - fatigue.

Effort strong in local strength & skill exercise during exercise - beginning heart failure.

- 1) pulse full & irregular.
- 2) radial artery stretched less.
- 3) blood leaves face - goes to lungs.
- 4) inspiration deep - expiration jerky.

\* Rest.

Circulation restored - lungs relaxed, of pressure & congestion - breathlessness disappears.



## ● Exercises of endurance

- 1) Heart increases during activity.
- 2) Heart decreases after "
- 3) Normally after contraction blood remains in heart. -  
poured out after muscular activity

Training is rhythmic repetition.

Fatigued muscle stretched is loaded.

## Im-crease

Heart - increases no. of contractions  
- " amt. of blood sent out  
- increased blood pressure in ht.

Hypertrophy - Increase in the mass of  
the heart wall - thickening.

● Dilation - Stretched - increased cardiac  
chambers.

Small heart - T.B. possible

High blood pressure

- large heart - small arteries  
- beats slowly + feebly

Exercises of speed - when young.

" " endurance " older.

(Free play ) increases heart, lung + metabolism  
(Walking) capacity.

- more than 1 hr. P.E.



## Chapter 9.

## Influence Upon Metabolism

### Metabolism continuous.

- body has an even temperature.
- body replaces used cells.
- energy produced = energy introduced  
greater in growth

Small caloric - 1 cc.  $1^{\circ}\text{C}$ .

Large " - 1000 c.c.  $1^{\circ}\text{C}$ .

- glycogen - fuel.
- protein - muscle contraction.
- fat - 1) storage  
2) fills space.

Metabolism - depends on.

Protein 1) amt. of protein present.

- 2) surface area - contact with blood.
- $\text{O}_2$  + combustion.

Fat & glycogen - no effect on metabolism.

Muscle increases metabolism.

Fat decreases " "

Energy consumption depends on.

- 1) metabolism at rest.
- 2) work performed.

Basal metabolism maintains

- body temp.
- heart, lung, gland activities.

Energy increases on work.

respiration | increase.  
heart

- speed by rhythm (training of muscles).



## ● Endurance exercises.

- great amt. of work
- least amt. of exertion

Speed - great amt. of work - short time.

Strength. " " " " muscles work in groups.

P.E. increases metabolism by exercises of speed & endurance.

## Chapter 10.

## Value of Different Exercises.

### Two groups of movements.

#### 1) Parts to go to a whole.

- general exercises of strength.
- local exercises of strength.
- exercises of skill.

#### 2) Rhythmic succession of same movement continued for an indefinite period.

- exercises of endurance & speed.

### General strength.

- Big exertion of large muscle groups with act of pressure.

- Stimulate breathing & heart & metabolism.

\* - Wrestling & weight-lifting.

\* - Bad for heart & lungs. P. 176.

### Local strength & skill.

- Exercise & strengthen small muscle groups & develop maximum strength.

### Skill.

- Improve co-ordination between brain & nerves.
- Develops will-power.



### Free -

- Simple movements repeated often.
- In standing, lying, sitting.
- Co-ordination.

### Apparatus.

- Develops strength & skill & respiration.
- Static - long muscle contractions.
- Rhythmic - short " "
- Bars & ropes.

### Vaulting & throwing.

- Develops muscle control.
- Dynamic.

### Benefits

- Vision develops.
- Breathing improves.
- Muscles develop.
- Co-ordination of nervous system improves.
- control of body by will.

### Speed & endurance.

Walking, marching, mountain climbing,  
running, dancing, swimming,  
rowing, skating, ski-ing, bicycling.

### Nervous system.

Related & restorative of brain & nerve.

Attention & alertness & memory exercises.



## ● Chapter 11.

## Need for Exercise.

### Pre-school.

Sand, single apparatus, open air.  
Free play.

### 6-9 yr.

Increase activity of organs.  
Decrease school effects.  
Stimulate nervous system.  
Free exercises, balance, rhythms.

### 9-12 yr.

Swiftness, skill, alertness games.

P. E. 1 hr. daily. 1 aft. mucky.

Posture.

### ● 12-15 yr.

Stimulate heart & lungs.

15-16 yr. Speed exercises.

### 17-20 yr.

40 yr. Speed gone  
Arteries harden.  
Heart weakens.

## Chapter 12.

## Athletic Types.

Leptosome.

Pyknic

Well-proportioned (middle.)

● Football.

Ball

Short & sinewy.



Pyknic - wrestlers, boxers, gymnasts.  
- courage, heavy, put on wt. in  
termination of exercise.

Leptosomic - sprinters, footballers.  
- nervous, thin.

Type depends on  
- musculature.  
- ability of heart.  
- chemical changes of body.  
- temperament & character.

Sprinters) - tall & thin. long distance) - short.  
Jumpers

Throwers - heavy & tall

Wt. lifters - heavy & short.

All round - large, broad-shouldered,  
narrow hips.



Hygiene

Miss Wardley

Health Habits

Sleep - 9 hr.

Rest - 15 minutes a day, before a meal.

Colds - prevention.

Keep away from people with colds + public places.

Pandemic - world-wide.

Get plenty of rest.

Drink plenty of liquids (fruit juices + cod-liver oil.)

Fresh fruit, not too many starches + sugars.

Don't get your feet wet.

Keep out of drafts + don't get chilled.

Cold baths in morning.

Don't change clothing suddenly.

Symptoms

Tired + aching + chilly.

Sneeze, sore throat, great thirst.

dry nose + throat.

Treatment

Drink lots of liquid - hot fruit juices + water.

+ soda - 1 tsp. to 1 glass water.

+ 4-5 times a day.

- + aspirin a day.

Gargle - 1 tsp. salt and soda to 1 glass. (5 times)

Hot compresses - 15 min. at a time.

Wear woollen underwear.

Hot mustard plasters.

Laxative.

Temperature - Stay in bed 24 hr. after normal.



IN CANADA

Don't spread cold.

Cold serum.

Careful of coughing + sneezing.

Go to bed with hot water bottle + hot bath.

Be brave.



Hamilton

LUNCH

DINNER

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OCT. 14 THURSDAY	OCT. 15 FRIDAY	OCT. 16 SATURDAY	OCT. 16 SUNDAY	OCT. 17 MONDAY	OCT. 18 TUESDAY	OCT. 19 WEDNESDAY
7.30 - Got up. 7.50 - 7.50 - Washed & dressed. 7.50 - 8.10 - Breakfast. 8.10 - 8.50 Tidied up. 8.50 - 8.45 Went to school. 8.45 - 8.58 Dressed. 8.58 - 9.00 Went to class. 9.00 - 12.40 - Classes. 12.40 - 12.55 - Meeting. 12.55 - 1.05 - Dressed. 1.05 - 1.20 - Went home.	7.35 Got up. 7.35 - 7.45. Washed & dressed. 7.45 - 8.15 Breakfast. 8.15 - 8.35. Tidied up. 8.35 - 8.45. Went to school. 8.45 - 8.50 - Talked. 8.50 - 8.58. Changed. 9.00 - 12.40 - Classes. 12.40 - 12.50 - Talked. 12.50 - 12.58 - Went upstairs.	9.20 Got up. 9.20 - 10.30. Tidied up & dressed. 10.30 - Drove to Hamilton.	9.15 - Got up. 9.15 - 9.25 Washed & dressed. 9.25 - 9.55. Breakfast. 9.55 - 10.10 Tidied up. 10.10 - 10.15 Washed & changed. 10.15 - 12.45. Studied. 12.45 - 1.00 Changed.	7.40 - Got up. 7.40 - 7.50 - Washed & dressed. 7.50 - 8.20 - Breakfast. 8.20 - 8.35 Tidied up. 8.35 - 8.40. Went to school. 8.40 - 9.10 - Studied. 9.10 - 12.40. Classes. 12.40 - 12.45. Read letter.	7.25 - Got up. 7.25 - 7.55. Washed, dressed. Tidied up. 7.55 - 8.20 - Breakfast. 8.20 - 8.30 - Dressed for school. 8.30 - 8.45 - Went to school. 8.45 - 9.00 Talked. 9.00 - 12.40 - Classes. 12.40 - 12.55. Went home.	7.30 - Got up. 7.30 - 7.55. Washed & dressed. 7.55 - 8.20. Breakfast. 8.20 - 8.30 Tidied up. 8.30 - 8.40. Went school. 8.40 - 9.10. Talked. 9.10 - 11.00. Classes. 11.00 - 12.00. Sat in park. 12.00 - 12.15. Drove. 12.15 - 12.25. Went to school. 12.25 - 12.45. Classes. 12.45 - 1.00 - Talked.
1.20 - 1.50 1.50 - 2.10 - Sat 2.10 - 2.20 - Washed & tidied up. 2.20 - 4.30 - Studied. 4.30 - 5.45 - Read 5.45 - 6.00 - Phoned. 6.00 - 6.15 - Bathed & changed.	12.53 - 1.15. 1.15 - 1.30 - Talked. 1.30 - 2.10 - Studied & talked. 2.10 - 4.25 - Class & exam. 4.25 - 4.50 - Walked & talked. 4.50 - 5.30 - Drove. 5.30 - 5.45 - Sat. 5.45 - 6.45 -	1.30 - 2.10. 2.10 - 3.45 - Visited 3.45 - 6.00. Drove around & then home. 6.00 - 6.15. Tidied up.	1.00 - 1.50 1.50 - 2.10 - Sat 2.10 - 2.20 Washed & changed. 2.20 - 4.10 Studied. 4.10 - 5.00 Talked & changed.	12.45 - 1.15. 1.15 - 1.25 - Got back 1.25 - 2.05 - Studied. 2.10 - 3.40 - Classes. 3.40 - 3.50 - Changed. 3.50 - 4.15 - Shopped & home. 4.15 - 6.00 - Bathed & changed. 6.15 - 6.45 -	1.00 - 1.25 - 1.25 - 1.45 - Tidied up & talked. 1.45 - 1.55 - Went to school. 1.55 - 2.10 - Talked. 2.10 - 3.45 - Classes. 3.45 - 4.15 - Milkshake. 4.15 - 4.30 - Home. 4.30 - 5.30 - Sat 5.30 - 6.00 - Studied & changed. 6.15 - 6.45 -	1.00 - 1.15 - 1.15 - 1.35 - Talked. 1.35 - 2.30 - Studied. 2.30 - 5.00 - Classes. 5.00 - 5.20 - Milkshake. 5.20 - 5.40 - Went home. 5.40 - 6.15 - Bathed & changed.
6.15 - 6.50 6.50 - 7.10 - Coffee. 7.10 - 7.25 - Sat 7.25 - 7.30 - Changed clothes. 7.30 - 9.30 - Studied. 9.30 - 9.45 - ate 9.45 - 10.30 - Washed 10.30 - Bed.	6.45 - 7.10 - Coffee. 7.10 - 7.25 - Drove. 7.25 - 9.05 - Dinner. 9.05 - 9.15 - Drove. 9.15 - 11.30 - Movie. 11.30 - 11.45 - Drove. 11.45 - 12.00 - Washed & changed. 12.00 - Bed.	6.15 - 6.45. 6.45 - 7.10 - Coffee. 7.10 - 7.25 - Sat. 7.25 - 7.30 Changed. 7.30 - 11.15 - Talked. 11.15 - 11.30 Washed. 11.30 - Bed.	5.00 - 6.15. 6.15 - 10.00 - Talked & wrote letters. 10.00 - 10.30 - Bathed & changed. 10.30 - 12.00 - Talked and studied. 12.00 - Bed.	6.45 - 7.15 - Coffee. 7.15 - 7.30 - Changed & talked. 7.30 - 9.45 - Studied. 9.45 - 10.00 - Changed. 10.00 - 10.30 - Talked. 10.30 - Bed.	6.45 - 7.20 - Coffee. 7.20 - 7.30 - Sat & read. 7.30 - 9.30 - Studied. 9.30 - 9.50 - ate. 9.50 - 10.15 - Bath. 10.15 - 10.45 - Studied. 10.45 - Bed.	6.15 - 6.45. 6.45 - 7.00 - Coffee. 7.00 - 7.25 - Sat. 7.25 - 7.30 - Changed. 7.30 - 9.30 - Studied. 9.30 - 9.45 - Talked. 9.45 - 11.30 - Talked.





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